3 Steps for Upgrade of District Connection to Kentucky Information Highway

1. Ensure District complies with KETS Networking Standards
   a) *Comply with KETS Proxy Standards:*
   Every Workstation in the School District must be configured to use a Proxy.
   Downstream Proxies must point to the District Hub Proxy.
   The District Hub Proxy must point to the State Array.
   Router Filtering and Standards in place.
   KETS Product Standards and Design Compliance
   b) *Comply with KETS Exchange Standards:*
   KDE requires that the following services run on one Server. This server is already referred to as the Bridgehead Server by the KETS Enterprise Messaging team. It is the Server that provides the X.400 Connection to KDE for Inter-District mail. This Server should run:
      MS Exchange X.400 Connection to KDE
      SMTP Gateway for Internet Mail.
      PDC or BDC (PDC preferred)
      WINS
      DNS
   This is a tried and true working configuration that has withstood the test of time on the KETS Network. If a District cannot keep these services on a single machine with all the district user mailboxes, it is best to move all the mailboxes to a Second Exchange Server. This allows that server to focus on local traffic and gives the best overall performance.
   c) *Location of Bridgehead Server*
   KETS Standard design is that the bridgehead server be located at the District Hub site where the KIH connection is on a LAN speed (10 or 100 mbps) connection to the District Hub Server.
   d) *Hardware and Software code level standards*
   All district routers, including district hub, will be at the current KETS deployed level of code.
      Currently router base code level is 13.20
   e) *Exchange Servers will be at the current KETS deployed level (KETS Standard) of code.*
   Current base code level is Exchange Enterprise Server 5.5 SP4
   Current base code level for Exchange - NT 4.0 SP 6a
   ftp://ketsftp.k12.ky.us/Messaging

2. Network Utilization Standard

Network Utilization for the district KIH Connection must exceed 80% for five-minute periods on a consistent daily and weekly basis. (Monitored for a 4 week period during peak usage times) This can be checked at http://ketsnet/

3. Determine if Network Traffic is Appropriate

Ensure Bridgehead Exchange Server is configured to only allow SMTP relaying with authentication. KDE will set up Filters on the Router that will allow ONLY traffic from the following Servers:

Bridgehead Exchange Server
Proxy Server
Financial Server (RS-6000)
CSU

As soon as the filters are applied KDE will look at the traffic patterns and ensure that the 80% threshold is maintained (This must happen during peak traffic periods). If the traffic drops below 80%, this would indicate questionable use. It is possible that other services are using IP ports and need to be allowed unrestricted routes out. Those services will need to be identified, confirmed and approved before this procedure takes place. A district can communicate specific needs through their appropriate KETS Regional Engineer. If the 80% threshold is maintained KDE will then inspect the Proxy Logs for appropriate use. District participation and cooperation is required to fulfill the completion of this procedure.

After all steps above are complete then a determination as to the best line upgrade path will be made.

To initiate these procedures a district will need to contact the KETS Regional Engineer (KRE). The KRE will manage this process through the engineering staff at the Education Technology Assistance Center.

All Standards advisories will be adopted as KETS technical standards in networking, proxy, and messaging. During the advisory period, comments can be sent to the KETS Security Advisory e-mail address at **KETSStandardsAdvisory@kde.state.ky.us**.